Low Gravity Anchoring System, Phase I

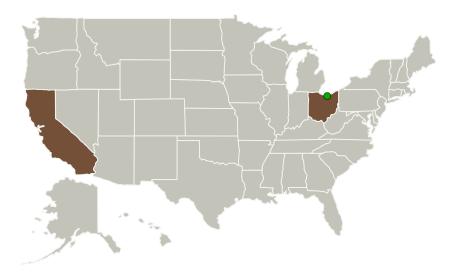
Completed Technology Project (2012 - 2012)



Project Introduction

Future sampling missions to the Moon, Mars and Asteroids will likely involve drilling and in-situ analysis from mobile robotic platforms in low gravity. Past sampling systems like the MER and MSL Rovers have used tool body preloading as their method of stabilization. This method puts high demands on the deployment device and becomes less viable as gravity decreases, as with an asteroid sampling mission. This proposal involves the development of an effective low-gravity anchoring system which would decrease the preload requirement and peak reaction forces on the deployment device. And in the case of asteroid or comet sampling it would reduce the demand and complexity of the propulsion system. At the end of this Phase 1 proposal a prototype anchor will be developed to TRL 4. A proposed Phase 2 effort would develop a flight-like system and field test it advancing the technology to TRL

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Туре	Location
Cadtrak Engineering,	Lead	Industry	San Anselmo,
LLC	Organization		California
Glenn Research Center(GRC)	Supporting	NASA	Cleveland,
	Organization	Center	Ohio



Low Gravity Anchoring System, Phase I

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Small Business Innovation Research/Small Business Tech Transfer

Low Gravity Anchoring System, Phase I



Completed Technology Project (2012 - 2012)

Primary U.S. Work Locations		
California	Ohio	

Project Transitions

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February 2012: Project Start



August 2012: Closed out

Closeout Documentation:

• Final Summary Chart(https://techport.nasa.gov/file/138267)

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Organization:

Cadtrak Engineering, LLC

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

Project Management

Program Director:

Jason L Kessler

Program Manager:

Carlos Torrez

Principal Investigator:

David Levitt

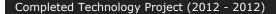
Co-Investigator:

David Levitt

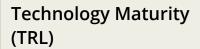


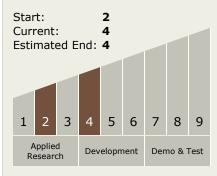
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Technology Areas

Primary:

Target Destinations

The Sun, Earth, The Moon, Mars, Others Inside the Solar System, Outside the Solar System

